

## HIGH RELIABILITY SILICON POWER RECTIFIER

*Qualified per MIL-PRF-19500/211*

- Glass Passivated Die
- Glass to Metal Header Construction
- Rugged Construction
- High Surge Current Capability

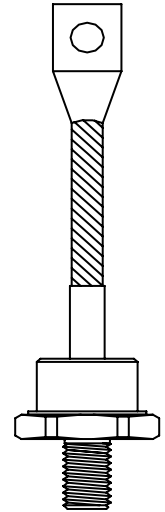
### DEVICES

<b>1N3164</b>	<b>1N3172</b>	<b>1N3164R</b>	<b>1N3172R</b>
<b>1N3168</b>	<b>1N3174</b>	<b>1N3168R</b>	<b>1N3174R</b>
<b>1N3170</b>		<b>1N3170R</b>	

**LEVELS**  
**JAN**  
**JANTX**  
**JANTXV**

### ABSOLUTE MAXIMUM RATINGS ( $T_C = +25^\circ\text{C}$ unless otherwise noted)

Parameters / Test Conditions	Symbol	Value	Unit
Peak Repetitive Reverse Voltage	$V_{RWM}$	200	V
1N3164    1N3164R		400	
1N3168    1N3168R		600	
1N3170    1N3170R		800	
1N3172    1N3172R		1000	
1N3174    1N3174R			
Average Forward Current, $T_C = 150^\circ$	$I_F$	200	A
Average Forward Current, $T_C = 120^\circ$	$I_F$	300	A
Peak Surge Forward Current @ $t_p = 8.3\text{ms}$ , half sinewave, $T_C = 200^\circ\text{C}$	$I_{FSM}$	6250	A
Thermal Resistance, Junction to Case	$R_{\theta JC}$	0.20	$^\circ\text{C}/\text{W}$
Typical Thermal Resistance	$R_{\theta CS}$	0.80	$^\circ\text{C}/\text{W}$
Operating Case Temperature Range	$T_j$	-65 $^\circ\text{C}$ to 200 $^\circ\text{C}$	$^\circ\text{C}$
Storage Temperature Range	$T_{STG}$	-65 $^\circ\text{C}$ to 200 $^\circ\text{C}$	$^\circ\text{C}$



### ELECTRICAL CHARACTERISTICS ( $T_A = +25^\circ\text{C}$ , unless otherwise noted)

Parameters / Test Conditions	Symbol	Min.	Max.	Unit	
Forward Voltage $I_{FM} = 940\text{A}$ , $T_C = 25^\circ\text{C}$	$V_{FM}$		1.55	V	
Reverse Current	$I_{RM}$		10	mA	
$V_{RM} = 200$ , $T_C = 25^\circ\text{C}$					1N3164    1N3164R
$V_{RM} = 400$ , $T_C = 25^\circ\text{C}$					1N3168    1N3168R
$V_{RM} = 600$ , $T_C = 25^\circ\text{C}$					1N3170    1N3170R
$V_{RM} = 800$ , $T_C = 25^\circ\text{C}$					1N3172    1N3172R
$V_{RM} = 1000$ , $T_C = 25^\circ\text{C}$	1N3174    1N3174R				
Reverse Current	$I_{RM}$		30	mA	
$V_{RM} = 200$ , $T_C = 175^\circ\text{C}$					1N3164    1N3164R
$V_{RM} = 400$ , $T_C = 175^\circ\text{C}$					1N3168    1N3168R
$V_{RM} = 600$ , $T_C = 175^\circ\text{C}$					1N3170    1N3170R
$V_{RM} = 800$ , $T_C = 175^\circ\text{C}$					1N3172    1N3172R
$V_{RM} = 1000$ , $T_C = 175^\circ\text{C}$	1N3174    1N3174R				

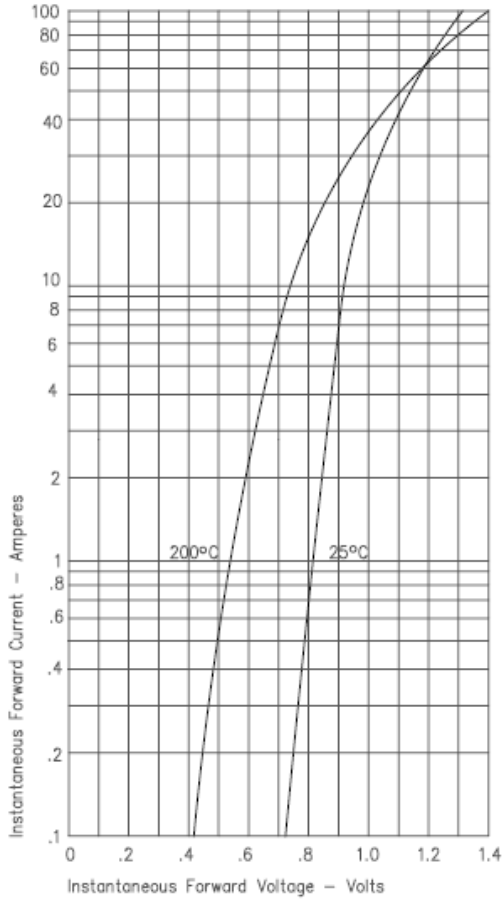
**Note:**

**DO-205AB (DO-9)**

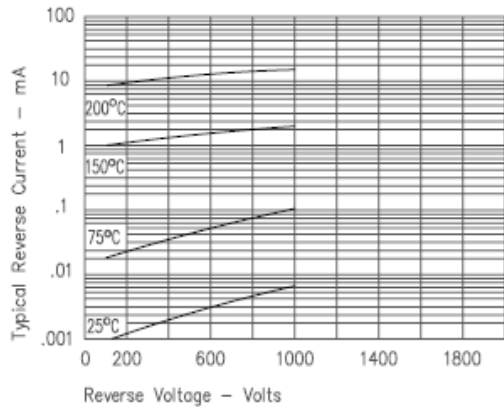
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### GRAPHS

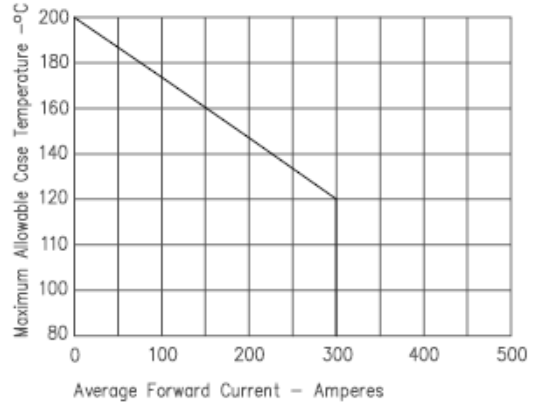
**FIGURE 1**  
**TYPICAL FORWARD CHARACTERISTICS**



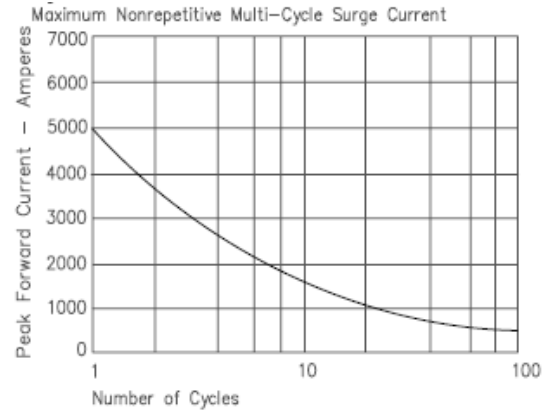
**FIGURE 2**  
**TYPICAL REVERSE CHARACTERISTICS**



**FIGURE 3**  
**FORWARD CURRENT DERATING**

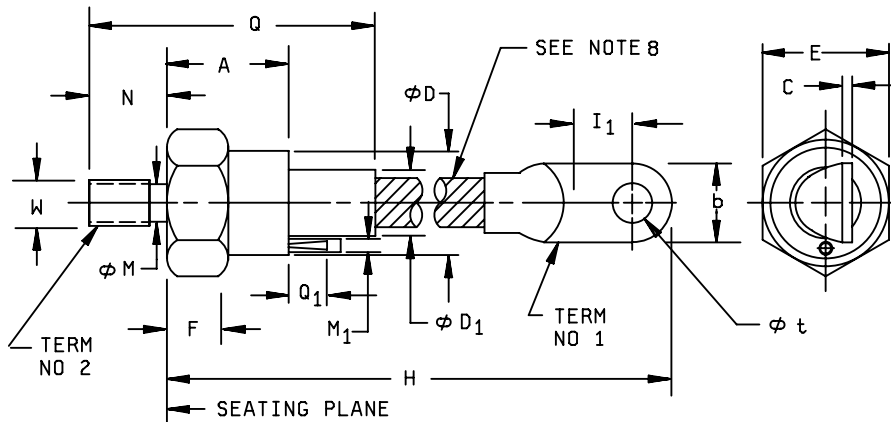


**FIGURE 5**  
**MAXIMUM NONREPETITIVE MULTI-CYCLE SURGE CURRENT**



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### PACKAGE DIMENSIONS



#### NOTES:

1. Metric equivalents are given for general information only.
2. Complete threads to extend to within 2.5 threads of seating plane.
3. .750-16 UNF-2A. Maximum pitch diameter of plated threads shall be basic pitch diameter. .7094 (18.019 mm) ref. (Screw Thread Standards for Federal Services) FED-STD-H28.
4. Angular orientation of terminal and tabulation with respect to hex base is undefined. Square or radius on end of terminal is undefined.
5. A chamfer (or undercut) on one or both ends of hexagonal portions is optional.
6. Tabulation optional.
7. Minimum flat.
8. Flexible leads.

Symbol	Dimensions				Notes
	Inches		Millimeters		
	Min	Max	Min	Max	
A		1.520		38.10	4
B	.530	.755	13.46	19.18	
C	.063	.172	1.60	4.37	
$\phi D$		1.100		27.94	
$\phi D1$		.600		15.24	
E	1.218	1.252	30.94	31.75	
F	.250	.562	6.35	14.27	5
H	5.125	6.750	130.18	171.45	
I1	.375		9.53		7
$\phi M$	.660	.745	16.76	18.92	2
M1		.125		3.18	6
N	.793	.828	20.14	21.03	
Q		2.300		57.15	
Q1		.375		9.53	6
$\phi t$	.265	.350	6.73	3.89	
W					3

Physical dimensions for semiconductor devices